

## **AMENDMENTS TO THE CLAIMS**

This listing of claims will replace all prior versions, and listings, of claims in the application. Please cancel claims 10, 17, 25-34, 37, and 38. Please amend claims 1, 8, 11, 12, 15, 18-22, 35, and 39 as follows.

### **Listing of Claims**

1. (Currently Amended) A method of simulating photoactive properties on a surface, comprising:

providing a substrate having a surface;

depositing a photoactive coating comprising titania over at least a portion of the substrate surface to provide ~~the~~ a photoactive surface, wherein the titania is at least partially crystalline; and

applying at least one peroxide-containing material over at least a portion of the photoactive surface.

2-4. (Canceled)

5. (Original) The method of claim 1, wherein the peroxide-containing material includes hydrogen peroxide.

6. (Original) The method of claim 1, wherein the peroxide-containing material is an aqueous solution of hydrogen peroxide.

7. (Original) The method of claim 6, wherein the aqueous solution comprises 1 wt.% to 30 wt.% hydrogen peroxide.

8. (Currently Amended) The method of claim ~~[[3]]~~ 1, wherein the photoactive coating has a thickness in the range of 10 Å to 5000 Å.

9. (Original) The method of claim 1, including drying the substrate with the peroxide-containing material.

10. (Canceled)

11. (Currently Amended) The method of claim 1, wherein the applying step for applying the peroxide-containing material includes:

applying the peroxide-containing material to an applicator; and  
wiping the applicator over the photoactive surface until a substantially uniform layer of the peroxide-containing material is on the photoactive surface.

12. (Currently Amended) The method of claim 1, including applying an at least partly hydrolyzed polyalkoxysiloxane material over at least a portion of the photoactive surface prior to applying the at least one peroxide-containing material.

13. (Original) The method of claim 12, when the polyalkoxysiloxane material comprises at least one at least partly hydrolyzed material selected from polymethoxysiloxane, polyethoxysiloxane, polypropoxysiloxane, polybutoxysiloxane, and mixtures thereof.

14. (Original) The method of claim 12, including drying the polyalkoxysiloxane material for 3 minutes to 60 minutes.

15. (Currently Amended) A method of demonstrating hydrophilicity of a photoactive surface by exposing the surface to electromagnetic radiation having one or more wavelengths of visible light, comprising:

providing a substrate having a photoactive surface comprising titania; and  
applying at least one at least partly hydrolyzed polyalkoxysiloxane material over at least a portion of the photoactive surface; and

applying at least one peroxide-containing material over at least a portion of the photoactive surface.

16. (Original) The method of claim 15, wherein the photoactive surface is a UV photoactive surface.

17. (Canceled)

18. (Currently Amended) The method of claim-~~[[17]]~~ 15, including applying the polyalkoxysiloxane material to have a dry film thickness in the range of 1 nm to 5 nm.

19. (Currently Amended) The method of claim-~~[[17]]~~ 15, wherein the polyalkoxysiloxane material is an aqueous solution comprising less than or equal to 0.5 wt.% of at least partly hydrolyzed polyalkoxysiloxane.

20. (Currently Amended) The method of claim-~~[[17]]~~ 15, wherein the polyalkoxysiloxane material is an aqueous solution comprising about 0.1 wt.% to 0.2 wt.% at least partly hydrolyzed polyalkoxysiloxane.

21. (Currently Amended) The method of claim-~~[[17]]~~ 15, wherein the polyalkoxysiloxane material includes at least one at least partly hydrolyzed material selected from polymethoxysiloxane, polyethoxysiloxane, polypropoxysiloxane, polybutoxysiloxane, and mixtures thereof.

22. (Currently Amended) The method of claim-~~[[17]]~~ 15, wherein the peroxide material includes hydrogen peroxide.

23. (Original) The method of claim 22, wherein the peroxide material is an aqueous solution comprising 1 wt.% to 30 wt.% hydrogen peroxide.

24. (Original) The method of claim 15, wherein the photoactive surface comprises crystalline titania.

25-34. (Canceled)

35. (Currently Amended) An article, comprising:  
a photoactive surface having a photoactive coating comprising titania; and  
at least one at least partly hydrolyzed polyalkoxysiloxane material deposited  
over the photoactive surface; and

at least one peroxide-containing material deposited over the photoactive surface.

36-38. (Canceled)

39. (Currently Amended) The article of claim ~~[[38]]~~ 35, wherein the polyalkoxysiloxane material includes at least one at least partly hydrolyzed material selected from polymethoxysiloxane, polyethoxysiloxane, polypropoxysiloxane, polybutoxysiloxane, and mixtures thereof.

40. (Previously Presented) The article of claim 35, wherein the peroxide-containing material comprises hydrogen peroxide.